

**PREAMPLIFIER CIRCUIT WITH SIGNAL INTERFERENCE CANCELLATION
SUITABLE FOR USE IN MAGNETIC STORAGE DEVICES**

ABSTRACT OF THE DISCLOSURE

5 In one illustrative example disclosed, a magnetic storage device includes at least one magnetic disk; a magnetic head which includes first and second read sensors; a suspension which supports the magnetic head relative to the magnetic disk; and read circuitry which includes a preamplifier. The preamplifier has a first input port coupled to the first read sensor; a second input port coupled to the second read sensor; a first bias
10 source coupled to the first input port for actively current/voltage biasing the first read sensor; a second bias source coupled to the second input port for zero biasing the second read sensor; and a subtractor having first and second inputs coupled to the first and the second input ports, respectively. The first input of the subtractor is provided with a first signal which includes a read sensor data signal and an interference signal, whereas the
15 second input of the subtractor is provided with a second signal which includes the interference signal but not the read sensor data signal. Thus, an output of the subtractor provides a read sensor signal without the interference signal.